



**TSB-110
SUB-BASS LOUDSPEAKER**

QUICK START GUIDE

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TSB-110 CONFIGURATIONS

The TSB-110 is a general purpose band-pass subwoofer designed to add low frequency reinforcement to Turbosound loudspeakers such as the IMPACT50, IMPACT80, TCS-30, TCS-35, TXD-081 and TQ-308.

The TSB-110 utilises a dual voice-coil 10" low frequency driver with two configurable 4 ohm voice coils. In its 'as shipped' configuration the two inputs and two outputs are set up so that the bass cabinet can be driven by the left and right channel of a standard two channel (stereo) power amplifier. The input connections are labelled left and right on the spring terminals and are also present at the 1+, 1- (left) and 2+, 2- (right) connections on the Speakon NL4MP socket. Outputs are available through the spring terminals only.

The inputs drive the two voice coils separately via a 150hz low-pass first order filter. The satellite speaker outputs are provided via a high-pass first order filter at 150Hz.

Amplifier considerations

Turbosound speaker enclosures should be driven by high quality power amplifiers designed for true professional use. Such amplifiers will have balanced inputs, DC and RF fault protection, and well designed cooling systems for reliability. Turbosound power amplifiers such as the T-45 and T-25 are recommended for this purpose.

The program power listed in the loudspeaker's technical specification is the best guide to the size of amplifier required for general purpose applications. The amplifier should therefore be capable of delivering long term broadband power equal to the loudspeaker's program power rating at the loudspeaker's stated nominal impedance. This approach allows sufficient headroom to generate good dynamic range.

In general, the more powerful the amplifier, the better it will sound, provided that it is not driven into sustained clipping. It should be understood that overdriving an insufficiently powered amplifier is more likely to cause loudspeaker damage – the total energy in a heavily clipped signal is far higher than in an unclipped signal – than operating a more powerful amplifier within its ratings.

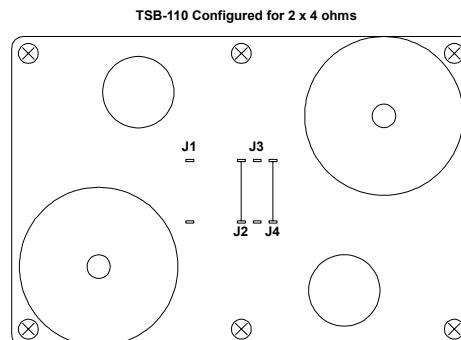
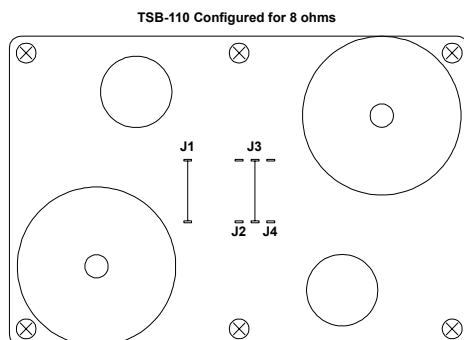
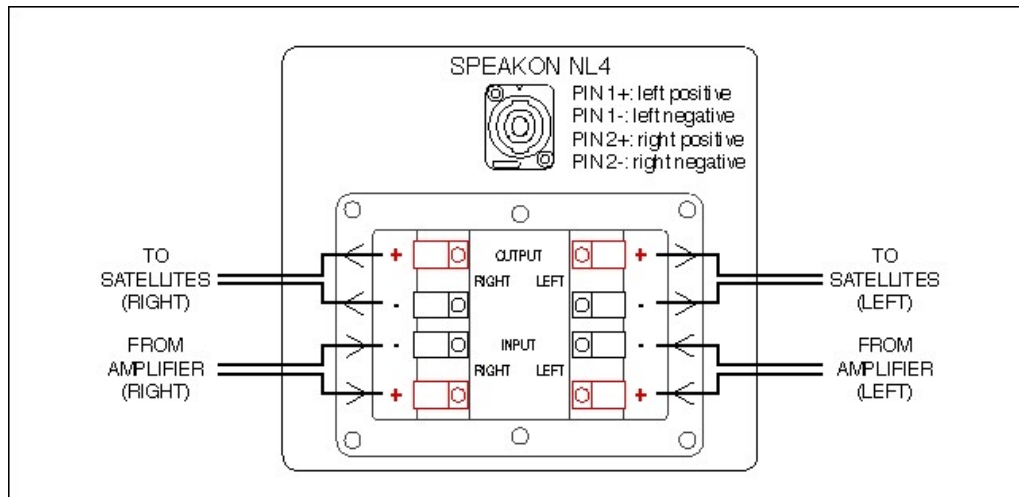
RECOMMENDED AMPLIFIER POWER RATINGS:

The amplifier's rated r.m.s. continuous power output (20Hz – 20kHz, each channel) should be 2 x 300 watts at 4 ohms per channel.

Single coil (8 ohm) configuration

The TSB-110 can be configured as a single 8 ohm sub-bass unit if required by effectively patching the two voice coils in series. To do this, remove the connector dish housing the spring terminals by removing the six cross-head fixing screws and lifting it out and away from the cabinet as far as the internal wiring will allow.

Locate the four jumper locations on the circuit board, labelled J1, J2, J3, and J4. The unit is shipped with J2 and J4 connected with J1 and J3 not connected (dual 4 ohm mode). For single 8 ohm operation unplug J2 and J4 and transfer the jumpers to J1 and J3. This connects the two voice coils in series and transfers the input to the left input only (pins 1+ and 1- on the Speakon NL4MP). Note: In single coil mode DO NOT use the right inputs and outputs as this will result in incorrect operation and may damage loudspeakers and amplifiers.



Technical Specifications

Dimensions	330mm x 585mm x 330mm (13" x 23" x 13")	
Net weight	16.5 kg (36.3 lbs)	
Frequency Response	45Hz to 180Hz	
Power Handling	300 watts r.m.s., 600 watts program	
Nominal Impedance	2 x 4 ohms	
Sensitivity	95dB, 1 watt @ 1metre	
Calc. Max SPL	120dB continuous, 126dB peak	
Crossover	Built-in high pass crossover network at 150Hz	
Construction	15mm (5/8") birch plywood	
Rigging	4 x M10 internal rigging points	
Options	TurboBlue or white semi-matt textured paint	
Spares & Accessories	LS-1019.2	10" LF driver (requires M5 x 35 fixing bolts)
	RC-1019.2	recone kit

WARRANTY

Limited Warranty

This Turbosound loudspeaker product is warranted to the original end-user purchaser and all subsequent owners for a period of two (2) years for loudspeakers from the original date of purchase.

Warranty Coverage

Warranty coverage includes defects in materials and workmanship. It does not include:

- damage caused by accident, misuse, abuse, neglect or modification by any person other than an authorised Turbosound representative,
- damage caused by failure to operate the product in accordance with the instructions contained in the user manual,
- damage occurring during shipment in transit,
- claims based on any misrepresentation by the seller,
- products which do not have the original components as specified in the product engineering information,
- products on which the serial number has been removed or defaced.

Shipping

Should any fault develop with a component of your Turbosound system, please return the product, freight pre-paid, in its original packing carton, along with proof of purchase such as the original bill of sale or receipted invoice, and a description of the suspected fault to Turbosound Ltd. (Att: Customer Service), or your local authorised Turbosound representative. The product serial number must be quoted in all correspondence relating to the claim. Insurance is recommended, as Turbosound or its representatives are not liable for loss or damage in transit. Turbosound will pay for return freight costs should repairs be covered under warranty.

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